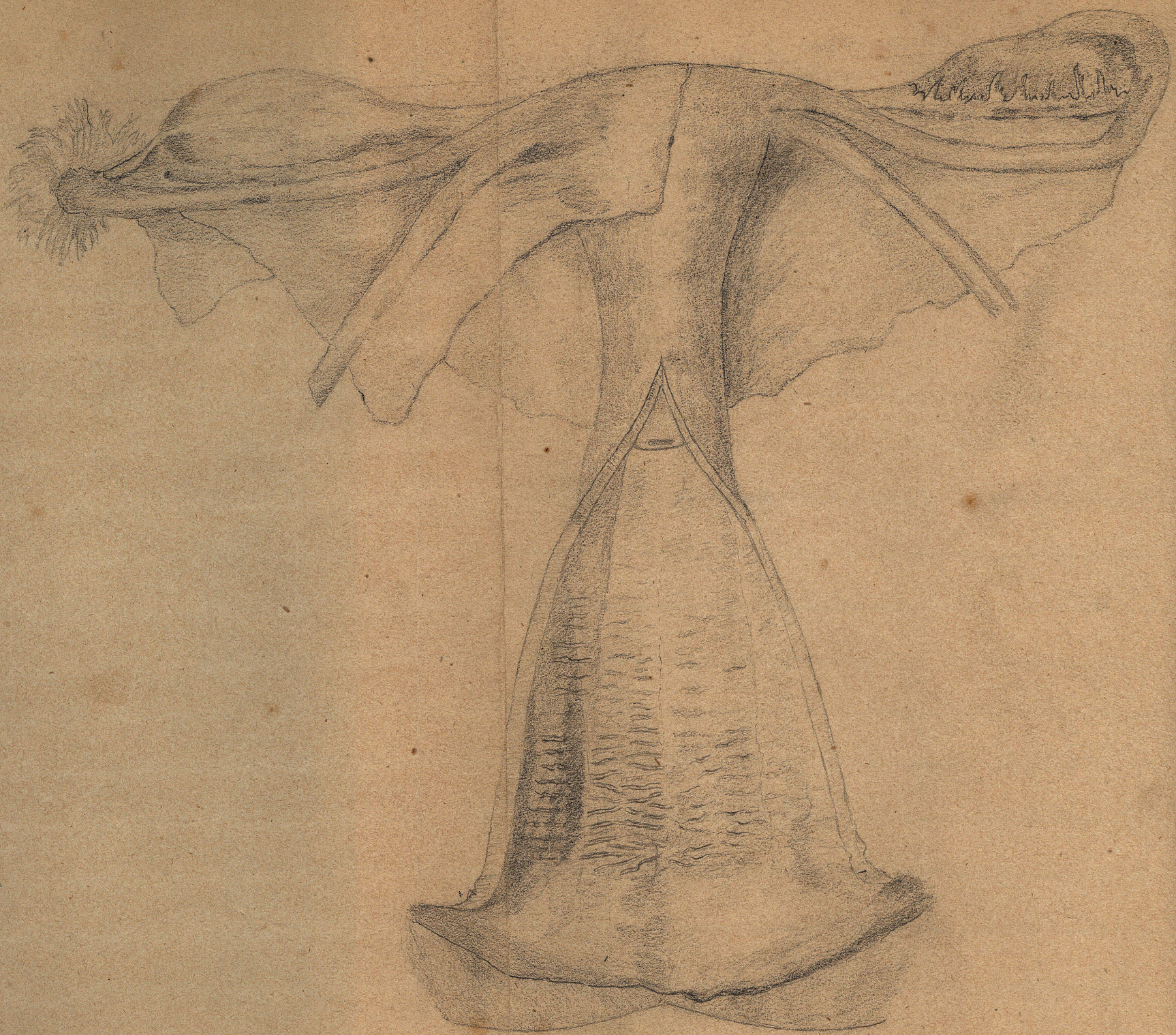

# An Essay

on

# The Uterus and its Appendages

Respectfully submitted

to

The Faculty of the

Homœopathic Medical College of Penn.

By

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# The Uterus and its appendages.

In the following paper we purpose describing the most interesting and important group of organs in the human body.

Galen, we read, was so impressed with the uterus that he worshipped it as a Deity: bearing this fact in mind, we are impressed with the greatness of the undertaking, but having faith in the old maxim "Omne ab ovo," respectfully submit our "ovum" of thought upon "the great mother of us all."

The unimpregnated uterus is a pear-shaped body situated in front of the rectum, and behind the bladder, and at the extremity of the vagina into which it looks downwards and slightly backwards, being retained in its place in the abdomen by its round and lateral ligaments.

At the period of gestation, the uterus weighs about an ounce and a half and measures three inches in length, two in breadth at its broadest part, and one in thickness.

For the sake of more minute description we may divide it into Fundus, Body and Cervix, which latter is well marked by a constriction. The opening in the Cervix which looks downwards into the Vagina, is called the Os and is of considerable size, being a transverse

slit across the lower portion of the Uterus. The Os opens internally into a smaller opening denominated the internal orifice, and here the canal commenced by the external Os expands into a triangular cavity which represents the original condition of this organ. At the apices are the internal openings of the Fallopian tubes, or conduct, which openings are oblique. In the canal of the Cervix Uteri are two longitudinal folds, anterior and posterior to which converge oblique folds, so as to give the idea of branches from the stem of a tree; hence this appearance has been denominated the Arbor Vitæ uterina. Between these folds and around the Os Uteri are numerous mucous follicles, an altered secretion of which constitute what are kenown as the ovula of Nabath. The Uterus in structure is externally serous; internally

approaching the condition of mucous membrane, the middle or true coat being composed of muscular fibres arranged obliquely, longitudinally and transversely - fibres of the muscular tissue and internal coats being reflected on the oviducts and ligaments proper to those organs.

The body and fundus serve as points of attachment for a fold of peritoneum, which constitutes the broad ligaments and keeps the organ in situ - they complete the extent of this viscus. At the upper extremity of the body on each side are situated the Fallopian tubes, the Ovaries and the round ligaments which latter a continuation of the substance of the Uterus passes forward through the Spermatic canal to be attached to the external labia; during pregnancy they serve to draw the Uterus towards the walls of the Abdomen. The Fallopian tubes are trumpet-shaped tubes capable of some distension and

and vermicular action, their muscular and internal structure being reflexions or continuations of the muscular and internal coats of the Uterus. Externally the Fallopian tubes are covered by a loose investure of peritoneum.; in length they measure some five inches, and at their free extremity terminate in fringe-like processes which serve to grasp the ripened ovum and convey it to the uterus. The Ovaries - analogues of the male testes - are two oval and flattened bodies uneven and whitish, connected to the Fallopian tubes and Uterus by small muscular fibres. They are composed of ovarian parenchyma, contained in a capsule of three layers, traversed by blood-vessels and enclosing in their cells the Graafian vesicle from which proceeds the ovum proper.

The Uterus is supplied with nerves by the hypogastric and sacral nerves and by branches of the Spermatic plexus; the ovaries from the renal

and spermatic plexuses; and the Fallopian tubes from the hypogastric ganglion.

The Arteries supplying the Uterus are the uterine from the internal iliac and the ovarian from the Aorta. The veins are large and remarkable, in the gravid uterus are called sinuses and consist of canals channeled through the substance of the viscus being lined merely by the internal membrane of the veins - having valvular openings into the substance of the Uterus; they terminate on each side of the Uterus in the uterine plexuses.

The Ovaries are supplied by the spermatic or ovarian arteries.

Thus briefly having described the uterine organs and their appendages, we now proceed to the more immediate subjects of which we intend to treat in this Thesis.

Perhaps no subject in medicine has afforded more room for theories than the circumstances and facts attendant upon the germination and generation of the human being.

It seems strange that, although since the creation of our first parents up to the present time, the same facts have really existed that now exist, still, even at this period there remains a doubt as to the explanation of certain changes which require but careful watching and patient investigation to determine "if these things be so," or not. Gradually since the first ages have the facts been elucidated, one by one has been drawn to the light and contested for, with all the power which the discoverer could avail himself of; and after much wrangling and disputation, has been admitted to a place in the history of the science, perhaps again to be thrown out as worthless and incorrect.

One grand test we now possess, the microscope,

was utterly unknown to the Philosophers of old, and which like the much sought for Philosophers Stone, turns all it touches into gold — the gold of Truth. Yet we require to reflect as well as to observe, for facts if unapplied or applied but carelessly, explain but little. Among other contested points there are two in particular which deserve our attention.

1st The Ovulear theory of Menstruation.

2nd The formation of the deciduous membranes. The latter bearing more upon the true explanation of Superfoetation than may at first be imagined, and which it shall be our endeavour to point out.

II. The Menses may be considered as a monthly hemorrhage from the Uterus, commencing at the period of puberty and ceasing only when the female becomes incapable of child-bearing. There are abnormal deviations from this rule, but from the time of Eve till

now, the exceptions have not been numerous enough to be taken into consideration otherwise than as abnormal deviations for a fixed law. Menstruation is said to be peculiar to the human female, still it is now held by physiologists to be similar in most of its actions to the period of heat in animals, which like the menstrual flow, has its appointed seasons; pregnancy as far as has been ascertained being always a multiple of that period. Many hypotheses have from time to time been advanced on this subject, but we conceive that the ovular theory, presents the fairest reasons and approaches nearest the truth. We may enunciate the Theory thus:— At every menstrual flow, an ovum ruptures the peritoneal investment of the Ovary and being caught by the fimbriated extremity of the Fallopian tube, is conveyed to the Uterus; thus proving that the more immediate

cause (of course secondary to the congestion), is by the rupture of the Ovarian tissue and production of the ovum in the Uterus.

Why this occurs monthly together with the time of birth being a multiple of months we know not yet. Susruta the Hindoo, a contemporary of Rama, ascribes it to the influence of the moon upon the female organism; such reason might be satisfactory in his day, but to use the words of a well-remembered lecture "if this were so we would have a universal menstrual flood-tide." Rather let us investigate and wait patiently until even in this matter success at last crowns our endeavours.

Brickshank, first in the year 1797 observed that the external membrane was ruptured, and an ovum had escaped through the tube to be washed off from the Uterus by menstrual blood. This observation was suffered to pass unnoticed until 1827, when

the subject was again brought forth by Dr John Powers in an essay "On the Female Economy", in which was fully worked out a theory on this matter, bringing forth facts and observations together with powerful reasoning on the subject to substantiate his theory: like other truths it came not forth unmixed and pure, but was accompanied by statements and supposed facts from which it has since been freed. "After many days", it was adopted, having to wait the fulness of time before it obtained a place in the world of science. The Menstrual flow is described as originating in the Uterus, yet in every instance in which examination of the parts has been permitted after death occurring during menstruation, one or both Fallopian tubes have been gorged with blood; this, together with the positive and negative facts that if the ovaries only be present menstruation can

exist, but if they be absent the flow is
offers strong presumptive evidence that the flow
originates with the ovaries. Ovarian excitement
we believe is caused by congestion of blood
to that organ. Our reasons for such belief
are as follows.

1st". The Ovaries at this period are larger and
appear more fully developed than at any
other period.

2nd". Not till the Sanguineous discharge
is apparent in the Uterus and Fallopian
tubes do the pains in the loins sides &c.
disappear.

3rd". That in all cases where the Fallopian
tubes have been examined after death
during menstruation, the menstrual flow
has been found there, and being unable
from the entrance of the Fallopian tubes into
the Uterus to receive it thence, it must have
exuded from the mucous coat of the

Fallopian tubes simultaneously with or previous to the flow from the Uterus, being more immediately connected to the ovaries.

4th "; The law of congestion is one having great influence over the secretions or excretions of the body — e.g. in the formation of milk, bile &c.

5th "; Wherever there is an increased action there is an increased supply to meet the demand.

6th Wherever the demand is quickly made congestion is ever present.

Time proves the Truth, - hence with these expressions of our faith, we take leave of this subject, trusting that should we be in error the hand of charity may be (in consideration of our want of experience) be freely extended to us.

III. The Formation of the Deciduous membranes

Almost up to the present time, the received idea respecting the formation of these membranes has been, that the Decidua Vera was a mere secretion of the Uterus at the time of utero-gestation and that the Decidua surrounding the Ovum was a reflexed portion of the true Decidua from the opening of the Fallopian tube on one side.

This membrane was also said to close up the Os Internum so as to prevent the ovum falling through and as a guard against the contingency of Super-fœtation.

The mode of formation as described and adopted as correct by Carpenter also by Kirkes and Paget is; that the Uterine glands are increased in size and somewhat altered in shape, and that the quantity of their secretion is at the same time augmented. "The vessels of the mucous membrane become larger and more numerous, while a substance

composed chiefly of nucleated cells fills up the interlobular spaces in which the blood vessels are contained. The effect of these changes is an increased thickness, softness and vascularity of the mucous membrane, which itself forms the Membranea Decidua" The Decidua Reflexa or more properly Secunda is formed by the ova, after its entrance through the Fallopian tubes into the Uterus attaching itself by its chorion to the Decidua Vera (which is still soft and plastic)* and by its presence causing a slight congestion if we may so term it — of the mucous discharge from the Epithelium cells of the Uterine wall; which secretion covering the Ovum forms the Decidua Reflexa, having the function of a diffuse Placenta and enveloping the Embryo, that Superfœtation at any one point, involves the production of

* One of many existing facts which proves our 6th proposition on the Theory of Ovular Menstruation.

hemorrhage which in abortion is so certain — especially in the earlier periods of utero-gestation

Our attention has been directed more particularly to this explanation of the decidnary formation because it offers, to our mind at least, a very simple and sufficient explanation of the fact of superfoetation, in cases where coition has been had after the lapse of several weeks or months and parturition has succeeded at like intervals, where it has been clearly proved there was but one Uterus.

Churchill after admitting the facts of Superfoetation, says "Are we necessarily to adopt the hypotheses of superfoetation? I think not because the real difficulties of such a theory appear insurmountable, and if so our ignorance of the true explanation is no argument for the adoption of a false one. The physical difficulties are those which depend on the change induced by impregnation. The reader will

find that it was stated that shortly after con-
-ception the Uterus is lined by the Deciduous
membrane a shut sac, closely adherent to
the lining membrane of the Uterus throughout
and covering the orifice of the Os Uteri and of
the Fallopian tubes; that the canal of the Cervix
Uteri is during pregnancy plugged with thick
tenacious mucous substance secreted by the
glands. Now, if this be the case, and if it
be an essential condition of generation that the
Spermatozoa pass through the Fallopian tubes
to the Ovaries, it is evident that the theory of
Superfatation involves so much apparent
physical impossibility that it must be rejected,
unless it can be shown how the Spermatozoa
can obtain access to the ovaries, when the Uterus
is as it were closed"

Adopting the theory advanced in the present
paper, these difficulties vanish for according
to such explanation the Fallopian tubes are

free at their internal orifice, and no resistance is offered to the passage of Spermatazoa through those tubes, if the inlet to the uterus is still left open. The inlet to the Uterus we assume is not closed by the Decidua Vera but by plugs of mucus secreted by the Glands of Nabothi, which are described by Wilson in his Anatomy as follows:- "Between these folds (the Arbor Vitae Uterina) and around the Os Uteri, are numerous mucous follicles. It is the closure of the mouth of one of these and the subsequent distension of the follicle with its proper secretion that occasions those vesicular appearances, so often noticed within the mouth and cervix of the Uterus called the Ovula of Nabothi." By this we perceive that a particular change takes place in the mucous follicles of the cervix before the ovula or glands of Nabothi are formed, and then afterwards that the mucus has to be secreted. We ask is it not possible and

indeed very probable that in some cases such changes might be incomplete, and thus leave an opening into the Uterus large enough for many Spermatazoa to enter.

Be it also remembered that Superfoetation is not a rule but an exception, just as the incompleteness of the blocking up of the Os Uteri may occur as an exception to the general proceeding of the formation of mucus by the follicles. Having thus imperfectly stated our views as regards the mode by which Superfoetation is brought about. We leave this subject, remarking in conclusion that at the present time the rivalry which has so long existed between the theorists of the mechanical and natural schools seems to be fast vanishing, each now perceives and adopts the truth and use of the others' doctrine.

Perhaps nothing presents this more graphically than contrasting with the present care

and attention given to the accouchement the following episode written by Sterne, which may be taken as a correct type of the proceedings of the Accoucheurs of other days. On the memorable occasion when Tristram Shandy was introduced into the world Doctor Jeremiah Slop the prototype of an ancient accoucheur was sent for. On his arrival he found the Midwife installed in the post of honour, and while tarrying in the parlour, awaiting his call to the bedside, entered into conversation with Uncle Toby, upon the respective merits of the mechanical and natural modes of delivery; Uncle Toby advocating the natural; Doctor Slop the mechanical method. To clinch the Argument, the Doctor thrust his hand into a green bag of portentous dimensions, for the purpose of drawing out a scientific instrument, a miniature hybrid betwixt a Blacksmith's pincers and a Harrow, used in the main incident

of his profession. In the ardour of debate, he seized hold of, and brought forth a Brobdignagian syringe,

"Good Gracious" exclaimed Uncle Toby "are children brought into the world with a squint?"